Claims

Claims 1-40 canceled.

41. (withdrawn) A pharmaceutical preparation for the treatment of atherosclerosis comprising an immunogenic preparation of a molecular inflammatory factor (MIF) and a pharmaceutically acceptable pharmaceutical carrier.

42. (withdrawn) A method of treating atherosclerosis, comprising administering to a mammal in need of such treatment the pharmaceutical preparation of claim 41.

43. (withdrawn) An extracorporeal device, comprising at least one affinity adsorbent, said affinity adsorbent binding at least one exotoxin.

44. (withdrawn) The device of claim 43 wherein the affinity adsorbent binds the exotoxin specifically.

45. (withdrawn) The device of claim 43 wherein the affinity adsorbent is chemically bound to a matrix in said device.

46. (withdrawn) The device of claim 43 wherein the device comprises at least two affinity adsorbents, said affinity adsorbents binding selectively to two different exotoxins, or an endotoxin and an exotoxin.

47. (withdrawn) The device of claim 43, wherein the affinity adsorbent is selected from antibodies, antibody fragments, synthetic antibody binding site analogs, genetically engineered synthetic antibody binding site analogs, exotoxin receptor binding sites, synthetic or genetically engineered exotoxin receptor binding site analogs.

48. (withdrawn) The device of claim 43 further comprising means for regenerating at least one affinity adsorbent.

49. (withdrawn) The device of claim 48 wherein the regeneration means comprise a solution.

50. (withdrawn) The device of claim 49, wherein the solution comprises a buffer.

51. (withdrawn) The device of claim 50 wherein the buffer is an acidic buffer.

52. (withdrawn) A method of removing a species from a mammal comprising introducing into the mammal an affinity binder which selectively binds the species, the affinity binder including a binding partner portion having affinity for a binding compound, and thereafter removing the affinity binder by capturing the affinity binder in a device having contained therein the binding compound, wherein the species is selected from the group consisting of TNF alpha, IL-6, CD3+ DR+ T cells, CD4+CD28null T cells, CD3+, CD56+, DM1, VGO1, LAK1, CRP, INF gamma, CA, NAB, CA-NAB, TGF β, P15E, Sialomucin, TH2 T cell epitope, tumor infiltrating lymphocyte (TIL) marker, lymphokine activated killer cell (LAK) marker, Interleukin 10 (IL-10), prostaglandin E2 (PGE2), mucin, suppressive E receptor (SER), immunosuppressive acidic protein (IAP), adhesion molecules, sR TNF alpha, sR TNF beta, sR IL-1, sR IL-2, sR IL-6, sR INF gamma, heat shock protein (HSP), antibodies to oxidized LDL (Ab-OxLDL), antibodies to HSP, CRP, triglycerides, IL-2, metalloproteinases, other proteinases, fibrinogen, creatine kinase, IL-I -Beta, IL-I-Ra, PDGF, angiotensin II, MCSF, pregnancy associated plasma protein A (PAPPA), antibodies specific to any of the following: the β1 adrenergic receptor, ADP-ATP carrier, alpha cardiac myosin heavy chain isoform, beta cardiac myosin heavy chain isoform, G Protein coupled receptors, and heart mitochondria, a targeted species bound to a targeting species, and toxins selected from the group consisting of botulinum toxin, tetanus toxin, ricin toxin, ricin A peptide toxin, endotoxin, sulfur mustard, prescription drugs, over-the-counter drugs, drugs of abuse, chemical poisons, and toxic metabolites thereof.

53. (withdrawn) A species-removing device having contained therein a binding compound attached to a matrix and an affinity binder bound by affinity binding to the

binding compound, the affinity binder having affinity for a species selected from the group consisting of TNF alpha, IL-6, CD3+ DR+ T cells, CD4+CD28null T cells, CD3+, CD56+, DM1, VGO1, LAK1, CRP, INF gamma, CA, NAB, CA-NAB, TGF β, P15E, Sialomucin, TH2 T cell epitope, tumor infiltrating lymphocyte (TIL) marker, lymphokine activated killer cell (LAK) marker, Interleukin 10 (IL-10), prostaglandin E2 (PGE2), mucin, suppressive E receptor (SER), immunosuppressive acidic protein (IAP), adhesion molecules, sR TNF alpha, sR TNF beta, sR IL-1, sR IL-2, sR IL-6, sR INF gamma, heat shock protein (HSP), antibodies to oxidized LDL (Ab-OxLDL), antibodies to HSP, CRP, triglycerides, IL-2, metalloproteinases, other proteinases, fibrinogen, creatine kinase, IL-I -Beta, IL-I-Ra, PDGF, angiotensin II, MCSF, pregnancy associated plasma protein A (PAPPA), antibodies specific to any of the following: the β1 adrenergic receptor, ADP-ATP carrier, alpha cardiac myosin heavy chain isoform, beta cardiac myosin heavy chain isoform, G Protein coupled receptors, heart mitochondria, a targeted species bound to a targeting species, and toxins selected from the group consisting of botulinum toxin, tetanus toxin, ricin toxin, and ricin A peptide toxin, endotoxin, sulfur mustard, prescription drugs, over-the-counter drugs, drugs of abuse, chemical poisons, and toxic metabolites thereof.

54. (withdrawn) The species-binding device of claim 53 wherein the affinity binder comprises an antibody, an antibody fragment, a synthetic antibody fragment, a synthetic antibody binding site, and a synthetic antibody binding site analog.

55. (withdrawn) The species-binding device of claim 53 wherein one of the binding compound and the affinity binder comprises Avidin, and the other of the binding compound and the affinity binder comprises Biotin.

56. (withdrawn) The species binding device of claim 54 wherein one of the binding compound and the affinity binder comprises Avidin, and the other of the binding compound and the affinity binder comprises Biotin.

57. (withdrawn) The method of claim 1, wherein the binding device comprises regeneration means, for regenerating the second portion of at least one affinity binder.

58. (withdrawn) The combination of claim 34, wherein at least one of the affinity binders comprises a first portion having affinity to the binding compound and a second portion having affinity to at least one of the group consisting of TNF alpha, IL-6, CD3+ DR+ T cells, CD4+CD28null T cells, CD3+, CD56+, DM1, VGO1, LAK1, CRP, INF gamma, CA, NAB, CA-NAB, TGF β, P15E, Sialomucin, TH2 T cell epitope, tumor infiltrating lymphocyte (TIL) marker, lymphokine activated killer cell (LAK) marker, Interleukin 10 (IL-10), prostaglandin E2 (PGE2), mucin, suppressive E receptor (SER), immunosuppressive acidic protein (IAP), adhesion molecules, sR TNF alpha, sR TNF beta, sR IL-1, sR IL-2, sR IL-6, sR INF gamma, heat shock protein (HSP), antibodies to oxidized LDL (Ab-OxLDL), antibodies to HSP, CRP, triglycerides, IL-2, metalloproteinases, other proteinases, fibrinogen, creatine kinase, IL-I -Beta, IL-I-Ra, PDGF, angiotensin II, MCSF, pregnancy associated plasma protein A (PAPPA), antibodies specific to any of the following: the β1 adrenergic receptor, ADP-ATP carrier, alpha cardiac myosin heavy chain isoform, beta cardiac myosin heavy chain isoform, G Protein coupled receptors, and heart mitochondria, oxidants, and toxins selected from the group consisting of botulinum toxin, tetanus toxin, ricin toxin, ricin A peptide toxin, endotoxin, sulfur mustard, prescription drugs, over-the-counter drugs, drugs of abuse, chemical poisons, and toxic metabolites thereof.

59. (withdrawn – currently amended) The ~~reagent~~ pharmaceutical preparation of claim 41 wherein the Molecular Inflammatory Factor (MIF) is selected from the group consisting of TNF alpha, IL-6, CRP, INF gamma, heat shock protein (HSP), IL-2, adhesion molecules, mucin, sialomucin, metalloproteinases, other proteinases, monocyte colony stimulating factor (MCSF), platelet derived growth factor (PDGF), Angiotensin II, pregnancy associated plasma protein A (PAPPA) and chemoattractant peptide.

60. (withdrawn) A method of treating Atherosclerosis, comprising administrating to a mammal in need of such treatment, at least one of the reagents of claim 59.

61. (currently amended) A pharmaceutical preparation for reducing of at least one molecular ~~inflammatory factor (MIF)~~ or cellular inflammatory factor ~~(CIF)~~ MCIF), the pharmaceutical preparation comprising ~~a species selected from a non-catalytic polyclonal antibody, a catalytic polyclonal antibody, a non-catalytic monoclonal antibody, a catalytic monoclonal antibody, antibody fragment, a synthetic antibody fragment, an antibody analog, a chimeric monoclonal antibody, a humanized monoclonal antibody, a fragment of any of the above antibodies, including synthetic fragments and analogs of such fragments, wherein said antibody, antibody fragment or analog~~ an antibody that selectively binds said ~~MIF or CIF~~ MCIF and including a pharmaceutically acceptable carrier, wherein said MCIF is selected from the group consisting of metalloproteinases, IL6, soluble IL2 receptors, CD3+ DR+ T cells, CD4+CD28 null T cells, CRP, and INF gamma.

62. (currently amended) The pharmaceutical preparation of claim 61, wherein ~~at least one MIF~~ said MCIF comprises IL6.

63. (previously presented) A method of treating a mammal in need of treatment aimed at the reduction of at least one molecular inflammatory factor (MIF) or cellular inflammatory factor (CIF), the method comprising administering to the mammal the pharmaceutical preparation of claim 61.

64. (currently amended) A method of treating a mammal in need of treatment aimed at the reduction of interleukin 6 ~~(IL6)~~, by administering to the mammal the pharmaceutical preparation of claim 62.

65. (previously presented) The method of claim 63, further including the administration of an anti inflammatory cytokine.

66. (previously presented) The method of claim 65 wherein the anti inflammatory cytokine comprises at least one of the group comprising interleukin 10 (IL10) and TGF-Beta.

67. (previously presented) The method of claim 64, further including the administration of an anti inflammatory cytokine.

68. (previously presented) The method of claim 67 wherein the anti inflammatory cytokine comprises at least one of the group comprising interleukin 10 (IL10) and TGF-Beta.

69. (previously presented) The pharmaceutical preparation of claim 61 wherein the antibody is selected from the group consisting of a non-catalytic polyclonal antibody, a catalytic polyclonal antibody, a non-catalytic monoclonal antibody, a catalytic monoclonal antibody, an antibody fragment, a synthetic antibody fragment, and an antibody analog.

70. (previously presented) The pharmaceutical preparation of claim 69 wherein the monoclonal antibody comprises a non-humanized chimeric monoclonal antibody, a humanized monoclonal antibody, a fragment of any of the above antibodies, including synthetic fragments and analogs of such fragments.

71. (withdrawn) The pharmaceutical preparation of claim 41 comprising an adjuvant.

72. (withdrawn) The pharmaceutical preparation of claim 71 wherein the adjuvant is suitable for administering to humans.

73. (withdrawn) The pharmaceutical preparation of claim 41 comprising a liposome.

74. (withdrawn) The pharmaceutical preparation of claim 41 wherein the immunogenic preparation comprises a carrier.

75. (withdrawn) The pharmaceutical preparation of claim 74 wherein the carrier is selected from KLH, Albumin and peptides.

76. (withdrawn) An extracorporeal device, comprising at least one affinity adsorbent, said affinity adsorbent binding at least one endotoxin wherein the at least one affinity adsorbent is selected from antibodies, antibody fragments, synthetic antibody binding site analogs, genetically engineered synthetic antibody binding site analogs, endotoxin receptor binding sites, synthetic or genetically engineered endotoxin receptor binding site analogs.

77. (withdrawn) The device of claim 76 wherein the affinity adsorbent is chemically bound to a matrix in said device.

78. (withdrawn) The device of claim 76 wherein the device comprises at least two affinity adsorbents, said affinity adsorbents binding selectively to two different endotoxins.

79. (withdrawn) The device of claim 76 further comprising means for regenerating at least one affinity adsorbent.

80. (withdrawn) The device of claim 79 wherein the regeneration means comprises a solution.

81. (withdrawn) The device of claim 80, wherein the solution comprises a buffer.

82. (withdrawn) The device of claim 81 wherein the buffer is an acidic buffer.

83. (new) A pharmaceutical preparation for reducing of at least one molecular or cellular inflammatory factor (MCIF), the pharmaceutical preparation comprising an antibody that selectively binds said MCIF and a pharmaceutically acceptable carrier, wherein the antibody is selected from the group consisting of an intact catalytic polyclonal antibody, an intact catalytic monoclonal antibody, an antibody fragment ,

including a synthetic fragment, and an analog of an antibody or antibody fragment that selectively binds said MCIF.